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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,878	03/18/2004	Seiichi Banba	50024-026	5193

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Washington, DC 20005-3096

EXAMINER

NGUYEN, PATRICIA T

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,878

Applicant(s)

BANBA ET AL

Examiner

Patricia T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,5 and 7-11 is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/9/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Tammone, Jr., U.S. Patent # 6,316,997 B1.

Fig. 1 of Tammone, Jr. discloses a circuit comprising: transistor Q1 can be read as a first transistor; VINn can be read as a first input signal; potential at resistor R1 can be read as a first potential; resistor R1 can be read as a first load; ground can be read as a second potential; transistor Q3 can be read as a first impedance device; transistor Q2 can be read as a second transistor; VINp can be read as a second input signal; resistor R2 can be read as a second load; transistor Q4 can be read as a second impedance device; circuit having transistor Q5, resistors R4, R5 can be read as a variable impedance circuit wherein resistors R4 can be read as a first resistive element and resistor R5 can be read as a second resistive element; transistor Q5 can be read as a variable impedance; control voltage gc can be read as a control voltage; nodes A and B can be read as first and second nodes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cyrusian et al., U.S. Patent # 6,570,447 B2.

Figs. 4 and 8 of Cyrusian et al. disclose a circuit comprising: in Fig. 8, transistor Mp can be read as a first transistor; INP 122 can be read as a first input signal; potential at drain of transistor 116 can be read as a first potential; transistor 116 can be read as a first load; ground can be read as a second potential; current source 138 can be read as a first impedance device; transistor Mn can be read as a second transistor; INN 132 can be read as a second input signal; potential at source of transistor 126 can be read as a first potential; transistor 126 can be read as a second load; ground can be read as a second potential; current source 140 can be read as a second impedance device; circuit having transistors NR1, resistors R0 which can be replaced by circuit 70 of Fig. 4 can be read as a variable impedance circuit; in Fig. 4, resistors 74 in opposite sides of transistor 76 be read as a first resistive element and a second resistive element; transistor 76 can be read as a variable impedance; control voltage at switch to gate of transistor 76 can be read as a control voltage; nodes A and B corresponding to nodes at sources of transistors Mp, Mn can be read as first and second nodes.

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Although Cyrusian et al. shows current sources 138, 140 instead of impedance devices, it is well known in the art that a current source can be made of resistors or transistors which are impedance devices; therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to substitute the current source with an impedance device such as resistor since such substitution is well known in the art.

Claims 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Lunn, U.S. Patent # 3,641,450.

Regarding claim 4, Fig. 1 of Lunn discloses a circuit comprising: transistor 106 can be read as a first transistor; input at 105 can be read as a first input signal; potential B+ can be read as a first potential; load 126 can be read as a first load; ground can be read as a second potential; resistor 109 can be read as a first impedance device; transistor 107 can be read as a second transistor; input at 103 can be read as a second input signal; load 127 can be read as a second load; resistor 110 can be read as a second impedance device; circuit having transistors 134, 135, resistor 114 can be read as a variable impedance circuit wherein transistors 134, 135 can be read as a first and second variable impedance devices; resistor 114 can be read as a resistive element; control voltage gain control from collector of transistor 140 can be read as a control voltage; nodes A and B can be read as first and second nodes.

Regarding claim 6, Fig. 1 of Lunn discloses a circuit comprising: node at base of transistor 101 can be read as a first node; node at base of transistor 102 can be read

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as a second node; node at collector of transistor 117 can be read as a third node; node at collector of transistor 113 can be read as a fourth node; node at ground can be read as a fifth node; transistors 134, 135 can be read as a first and second variable impedance devices; resistor 109 can be read as a first resistive element; resistor 110 can be read as a second resistive element; resistor 114 can be read as a third resistive element; control voltage gain control from collector of transistor 140 can be read as a control voltage.

Allowable Subject Matter

Claims 2, 5, and 7-11 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents # 6,480,064 B1, # 6,980,053 B2, and # 6,100,760 contain some limitations of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia T. Nguyen whose telephone number is (703) 308-1927. The examiner can normally be reached on 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 703-309-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTN

March 19, 2006

Patricia Nguyen

**PATRICIA NGUYEN
PRIMARY EXAMINER**